

PROPORTIONAL DIRECTIONAL CONTROL VALVE WITH A MAGNETIC POSITIONING SENSOR

Abstract of the Disclosure

The invention provides a proportional directional control valve having a valve operating mechanism that permits communication between a first and a second channel through a linear motion of a valve element of the valve operating mechanism, a magnetic assembly operatively connected to the valve element where the magnetic assembly provides a magnetic field responsive to the linear motion of the valve element, a linear Hall-effect sensor assembly configured to generate an electrical signal responsive to a change in the magnetic field, and a control system that controls the linear movement of the valve element in response to a comparison of the electrical signal and a command electrical input signal. The valve operating mechanism includes a valve assembly configured with a chamber housing the valve element. The linear motion of the valve element within the chamber allows fluid to be selectively conveyed through channels of the valve assembly.